

An Approach to Asset Market Risk when Regulatory Valuation is Based on Book Value

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Summary

This paper considers the relative advantages of book value and market value regulatory systems. It describes the current U.S. regulatory system, its perceived weaknesses and possible solutions. It concludes that it is inappropriate for the U.S. to switch to market value accounting for regulation. The U.S. should retain its book value regulatory system but enhance it by requiring an appropriate Valuation Actuary's Report. The regulation implementing this requirement must allow the valuation actuary sufficient professional freedom to be able to deal with future (as yet unanticipated) problems.

Résumé

Une Approche du Risque de Marché des Actifs Lorsqu'une Evaluation de Règlementation est Basée sur la Valeur Comptable

Cet article considère les avantages relatifs des systèmes de règlementation de valeur marchande et de valeur comptable. Il décrit le système de règlementation américain actuel, ses faiblesses perçues et solutions possibles. Il conclut qu'il n'est pas approprié pour les USA de passer à une comptabilité de valeur marchande pour règlementation. Les U.S.A. devraient conserver leur système de règlementation de valeur comptable mais l'améliorer en exigeant un Rapport d'Evaluation approprié fait par un actuair. La règlementation appliquant cette exigence doit donner à l'actuair chargé de l'évaluation suffisamment de liberté professionnelle pour permettre de s'occuper des problèmes futurs (jusque là non prévus).

The solvency of life insurance companies is regulated by various systems in different countries. Some value assets at market and compare these to liabilities discounted at a market interest rate (market value systems). Others value fixed income assets (other than perpetuities and bonds in default) at an amortized cost book value and compare these to liabilities discounted at a book value interest rate (book value systems).

The U.S. uses a book value system to regulate general account products. This system has recently come under attack as a result of the junk bond crisis. Some critics are calling for the U.S. to switch to a market value system in response to these events. (This paper does not consider "variable" products. These products pass the entire asset risk to the policyholder. These products are regulated through a separate account. The separate account is a separate set of books and a separate annual statement. The market value of the liabilities is easily determined, and both assets and liabilities are carried at market. Only the surplus from the separate account is brought into the regular statement.)

This paper concludes that the U.S. should continue to use a book value system and that a change to a market value system would affect the industry and consumers adversely. However, the present book value system must be augmented by a Valuation Actuary's Report (a concept currently under discussion). Further, regulation must depend less on rigidly codified rules, and more on the judgement of actuaries if it to be capable of dealing with the crises of the future (which have not yet been identified).

The balance of this paper discusses the following:

- The relative advantages of book value systems and market value systems.
- The current U.S. system including recently enacted changes to the Mandatory Securities Valuation Reserve.
- Perceived weaknesses of the current U.S. system.
- Possible solutions to these perceived weaknesses.
- The emerging Valuation Actuary's Report.

Relative Advantages of each System

Different governmental jurisdictions use book value reporting or market value reporting (or rather modified book value and modified market value) to regulate insurance companies. The U.S. uses modified book value whereas the U.K. and Canada use modified market value.

Both book value and market value systems have certain advantages. By and large, the advantage of one system is also a disadvantage of the other system. I have listed only advantages to avoid duplication. The book value approach has several advantages:

- Assets will exceed the total surrender values of the liabilities provided a company is solvent on the regulatory basis. This gives comfort to public who have difficulty understanding the market value of insurance products with fixed dollar surrender values.

Investment income is released as originally planned when the fixed income asset was acquired unless the asset defaults or is sold before maturity. This provides a predictable income stream consistent with the long term nature of insurance products. Individuals who buy insurance products with an investment element have a longer time horizon than individuals who buy mutual funds (for example).

The method can be applied to easily to privately placed securities where no publicly traded market value is available.

Book value systems prevent a company taking credit for unrealized capital gains. This introduces an element of conservatism, particularly with respect to investment real estate which is carried in the U.S. at depreciated cost (or market if less).

On the other hand, market value reporting systems also have certain advantages:

- The market value of the assets is the "real" value and indicates the price that an insurance company could realize if it wishes. Any other value is artificial. Approximate methods to estimate the market value of privately placed securities can be constructed.

- Everyone understands and can relate to market value whereas book value can be perceived as

accounting fiction. This ignores the fact that the market value of life insurance liabilities is not well defined. There is no secondary market for insurance policies which would serve to establish the market price and theoretical proxies to market value have to be developed.

Current U.S. System

Solvency of insurance companies in the United States is the responsibility of the Insurance Commissioner of each state. The 50 state Insurance Commissioners comprise the National Association of Insurance Commissioners (NAIC), a cooperative body to coordinate state regulation. The report that is prepared annually for the insurance commissioner is referred to as the Annual Statement or NAIC Blank.

Traditional life insurance products sold in the U.S. (all products sold until quite recently) consist of insurance policies with an explicit face amount and with fixed guaranteed cash values. Unlike certain other jurisdictions, the cash values cannot be varied at the discretion of company management.

Starting in the 1970s for annuities and in the 1980s for life insurance, many companies developed "interest sensitive" products. These involve an accumulation fund to which interest is credited at a rate declared from time to time by the company with a minimum rate guaranteed in the policy. These products define the cash value as the accumulation fund less a surrender charge which grades off over time. (Some early products charged a front end load

and had no surrender charges, but these have fallen out of fashion).

The minimum amount of specified cash value, or the maximum amount of surrender charge that may be assessed, is specified by law and regulation.

In recent years there has been some interest in products with market value adjusted surrender charges where the amount of surrender charge depends on the interest environment at the time of surrender. This places some of the interest rate risk for surrenders on the policyholder. However, the regulation surrounding suggested methods has been quite onerous and these products represent a small share of the market.

Fixed income assets that are not in default are carried at book value in the Annual Statement. Discount on bonds is accrued to the maturity date, premiums paid for bonds are amortized to the first call date, and mortgages are carried at nominal value.

In establishing the liability side of the balance sheet the reserve interest rates used are consistent with book value assets. In addition, the total cash value is a floor below which the reserves for a line of business cannot drop.

The Mandatory Securities Valuation Reserve (MSVR) is an offset to asset values that is designed to protect the company, to some extent, from asset risk. The MSVR has two components, a common stock component to cushion market fluctuation and a bond and preferred stock component to

provide for possible defaults or restructuring of assets held at book. There is no MSVR required for mortgages. For the purpose of calculating the MSVR, the assets are divided into broad classes and each class has its own contribution rate and maximum.

A revision to the MSVR for 1990 and later was adopted in June 1990. It classifies bonds more finely and changes the contribution rates and maxima. The table below shows the bond rates for 1989 and for 1995. (Preferred stocks are relatively insignificant.) The classifications are approximate as the NAIC uses its own classification set which does not map perfectly onto S & P or Moody's. However, they are accurate enough for this discussion.

Classification of Bonds for MSVR

S & P	Moody's	Contribution Rate	Maximum
In effect through 12/31/89			
BBB up	Baa up	0.10%	1.00%
B & BB	B & Ba	0.50%	5.00%
CCC down	Caa down	2.00%	20.00%

In effect 12/31/95 with transition starting 12/31/90

A up	A up	0.10%	1.00%
BBB	Baa	0.20%	2.00%
BB	Ba	0.50%	5.00%
B	B	2.00%	10.00%
CCC down	Caa down	5.00%	20.00%

The minimum value of the MSVR is zero. The maximum value is the total for the maxima for each asset class. Realized (and unrealized for assets carried at market) capital gains are added to, and losses subtracted from, the MSVR until it reaches these limits. The potential MSVR contribution (sum of rate times asset value for each class) is multiplied by an accumulation factor based on the ratio of the prior years MSVR to the maximum. The factors are:

Prior Year Ratio	Accumulation Factor
< 25%	3.0
< 50%	2.0
< 75%	1.0
≤ 75%	.5

The contribution, or the amount needed to reach the maximum, whichever is less is added to the MSVR and charged to income.

Unfortunately the MSVR is of limited value. The states regulate insurance companies based on the surplus shown in the Annual Statement (statutory surplus) which is directly affected by the MSVR. Some states require a minimum statutory surplus of 3% for a company to continue operation.

However, rating agencies (whose ratings are extremely important to most insurance companies for competitive reasons) use their own formulas to determine the minimum surplus needed for a given rating. They compare that minimum surplus to the statutory surplus plus MSVR. Thus, provided a company meets the 3% statutory surplus threshold

it will be constrained by the relationship of the statutory surplus plus MSVR to the minimum surplus formulas of the rating agencies rather than by surplus itself. Thus, the MSVR is a minor factor in the decision making process for many companies. This limits the effectiveness of the MSVR.

Perceived Deficiencies of the U.S. System

As a result of the S&L crisis and some significant insolvencies of P & C insurance companies, life insurance companies are receiving careful scrutiny by regulators and the public. They question life companies' holdings of junk bonds and real estate equity investments. Junk bonds (whether originally issued as high yield debt or fallen angels that were issued at investment grades and have subsequently been downgraded) are carried at amortized cost in the annual statement as long as they are not in default. At least one major U.S. insurance company group has received significant press because the market value of its assets was estimated to be \$1.5 billion below the book value.

Certain jurisdictions have become concerned at the size of some insurance companies junk bond holdings (in the wake of adverse publicity surrounding Michael Milken's legal problems and Drexel Burnham's bankruptcy) and are seeking ways to limit insurance companies holdings of junk bonds. The revised MSVR described above is one reaction to these concerns. Suggestions that the industry switch to a market value system is another reaction. An explicit maximum on the percentage of a company's assets that may be invested in below investment grade loads is a third. This is comparable

to current limits on common stock and investment real estate.

Real estate has been suggested as the next problem U.S. life insurers will face. When both investment real estate and commercial mortgages are combined it is obvious that life insurers are heavy investors in a weak market.

However, there are two major safeguards on life insurance companies real estate involvement. First of all, life insurance companies can only write first mortgages for 80% of the appraised value of a piece of real estate. The 20% cushion provides a better safeguard compared to mortgages written by banks and S&Ls, where the percentage of appraised value can be considerably higher. Secondly, life insurance companies carry real estate at the lesser of depreciated cost and market and cannot reflect unrealized gains in the Annual Statement. The only way that companies can "harvest" unrealized gains is to sell investment real estate and realize the gains. This prevents life insurance assets being supported by questionable appraisals, which was a significant component of the S&L problems in the U.S.

Possible Solutions

There are several possible solutions that could be devised. Most of these seek to use the MSVR as a tool to limit junk bond exposure. These include:

- Define a threshold short of default at which a bond switches to market value. (The current threshold is in effect default. This proposal is

that it be raised above default). This approach will be a difficult and controversial rule to draft and requires defining the market value for privately placed securities. Publicly traded securities could use a rating threshold (for example if they drop below CCC/Caa) but it is unlikely that the regulators would cede this much control to the rating agencies. It would be very difficult to define this threshold for privately placed securities.

- Establish an upper limit on book value such as 1.25 times market value for each class of asset. Book value will rise about market value in a time of increasing interest rates. However an excess of 25% of book over market either indicates that the company is invested very long (and probably indicates a mismatch between assets and liabilities) or it indicates that there is a credit risk that the market has identified in the underlying securities. This approach would at least limit the potential damage that an insolvency could cause.

- Change the MSVR maximum to a percentage of the difference between book and market, rather than the asset value but make the percentage higher. This would in affect be a hybrid amortized cost/market system.

- Change the valuation basis for fixed income securities to market. This would have to be

coupled with liability valuation at a market interest rate. If the cash value floor on the policy reserves were retained the companies would be subject to extreme earnings swings. The assets would fluctuate with the market, whereas the liabilities will fluctuate much less. The difference between the two fluctuations will fall into earnings. Many companies would become technically insolvent at times of high market interest rates. I use the expression technically since their surplus would be negative while they were still capable of fulfilling their obligations.

Over time companies would shorten their portfolios dramatically to avoid these earnings swings. This would lower their investment income (over long time horizons) and thus increase the cost of life insurance.

If on the other hand the cash value floor were removed the reserves calculated ignoring lapse would be too low. It would be difficult to select the appropriate level of lapse rates to assume for valuation purposes. It would be even more difficult to regulate this assumption, and the challenge of explaining to our consumers how liabilities less than cash values were, in fact, prudent is not a task many would welcome.

All but the last of these suggestions focus on limiting junk bond exposure. However companies are not investing in new

junk bonds. Those that hold them will need time to resolve any problems they have if they can; otherwise the regulators will place them into receivership. The appropriate concern of consumers and regulators is not what should we do about junk bonds, but how do we assure ourselves that future crises can be dealt with more expeditiously. This highlights why detailed regulatory reform of mechanisms, such as the MSVR, is not the appropriate medicine for life insurance companies in the U.S. The junk bond crisis is passed. The disadvantages of the MSVR as a regulatory tool have already been discussed. Rules promulgated by the legislative/regulatory process almost always follow events and are an inadequate substitute for professional judgement.

Valuation Actuary's Report

A radically different approach to ensuring company solvency has been making its way (slowly) through the U.S. system for the last few years. This is the concept of requiring a Valuation Actuary's Report. This will do far more to enhance the strength of the life insurance industry in the United States as we move into the 1990s.

The Valuation Actuaries Report will be a confidential report that assesses the viability of the life insurance company on an ongoing basis.

The valuation actuary will take into account the current assets, the company's marketing plans, investment strategy, unit expenses, and existing insurance portfolio and give his or her professional opinion on the adequacy of the company's reserves. This approach takes advantage of the fact that we

have a profession capable of making these judgements in a timely and effective manner.

At the present time, the NAIC is working to develop revised regulation which will incorporate the Valuation Actuary's Report. Their hope is to expose a draft regulation by June 1991. There is still some distance between the regulators' concepts of an appropriate model regulation and the actuarial profession's.

The regulators want the valuation actuary to be constrained (either by regulation or by detailed professional standards enforced by discipline procedures). Some would like a specified minimum set of scenarios such as those specified in NY Regulation 126 and defined ranges for key assumptions within which these assumptions must fall. They are concerned that if such an explicit frame work is not set up, some actuaries will ignore significant risks.

The actuarial profession, on the other hand wants to preserve the freedom of judgment, it needs to do an effective job as future risks unfold.

Explicit rules solve past problems and restrict the actuary from selecting the appropriate approach to dealing with emerging, unforeseen problems. This calls for the maximum degree of freedom. On the other hand, our profession needs to deal with a problem of public acceptance. Actuaries are not well known and our discipline procedures have been weak. It will take some constraints to satisfy our publics. These should be along the lines of risks that must be considered and documentation of assumptions selected, rather than

explicit ranges of permitted assumptions. The former ensures that all actuaries consider the risks. The latter reduce the process to a cookbook approach and will not survive over time without constant modification.

It will be difficult to craft regulation that will be acceptable to both parties, but it is vitally important that we do so. Unless the regulation has sufficient flexibility, the profession will not be able to react to future threats to insurance solvency in a timely fashion. Unless the standards promulgated by the profession are acceptable to the NAIC, the NAIC will draft its own standards which will be very detailed. This will serve neither party well.

Conclusion

Book value regulation is appropriate in jurisdictions that have fixed cash values and in particular in the U.S. The general public will be confused by a market value system that cannot (to be practical) have a cash value floor on the liability side. Excessive refinement of the MSVR is not the way to correct the perceived problems in the U.S. Rather the current book value system needs to be enhanced by an effective Valuation Actuary's Report that relies (appropriately) on the actuarial profession to become the early warning system for possible solvency problems in the life insurance industry.